

for Diseases of the Chest, where it is in general use for the relief of the condition alluded to:—

“R. Rad. rhei ℥ij; rad. zingiberis ℥ij; rad. gentian. ℥iss; sod. carbon. ℥ij; aquæ pur. ℔viij.”

The roots having been cut into small pieces, the infusion is made with cold water, and, after standing in a cool place for about twelve hours, is strained. The mixture is clear and bright, and not in the least disagreeable to take. In cold weather it keeps well; but in summer the addition of some tincture is necessary to prevent it from becoming thick. If cough be present, it is usual to combine with each dose from half a drachm to a drachm of paregoric; if sickness, from two to three minims of the hydrocyanic acid; and if the signs of atony, a small quantity of the tincture of gentian, calumba, or hop.

By the use of this mild stomachic (a wineglassful thrice daily), for a week or two before commencing the oil, and then continuing it during the exhibition of the latter, many patients have been induced to bear it with advantage, who had failed in other prior attempts to do so. The mixture is so mildly aperient that it almost never purges, and it may be continued for months together with the effect of improving most markedly both the appetite and the digestion. 4. *Cases in which the oil, although taken easily, cannot be borne in full quantity, and does not appear to produce much benefit.* In many cases of phthisis coming under this head, the combination of tonic medication with the use of the oil often answers well. So generally, in fact, is advantage derived from such combination, that at the Hospital for Chest Diseases there are very few patients, indeed, who take the oil alone. In almost all it is exhibited together with either the stomachic mixture above noticed, or some form of tonic. The favourite tonics are the sulphates of quinia and iron (gr. j with gr. ij ter die), or the sesquichloride of iron. The latter is extensively prescribed with the mineral acids in infusion of quassia; or, if the stomach be delicate, in the following more elegant form, which is a prescription of Dr. Risdon Bennett's: R. Tinet. ferri sesquichl. ℥x; acid. nitrici dil. ℥x; syr. zingib. ℥ss; aq. menthæ viridis ℥j. Ft. haust.

Notico has been made repeatedly in our hospital records during the last two years of the practice of combining the use of cod-liver oil with that of mercury, in small doses long continued, which prevails extensively at the Hospital for Skin Diseases, in cases of lupus and cutaneous struma, and at several other institutions, in the treatment of chronic disease of the joints. This kind of treatment is becoming increasingly prevalent, and is certainly very applicable to many forms of strumous inflammation. The plan of giving the oil to counteract the depressing effects of a mercurial course for the cure of syphilis in cachectic states of the constitution, has also been previously mentioned, and is well worthy of being borne in mind.—*Med. Times and Gaz.* May 13, 1854.

16. *Medicinal Constituents of the Lemon.*—Dr. COGSWELL read before the Physiological Society (March 13, 1854), a paper on this subject. The author's attention had been drawn to the subject by the publications of Dr. Owen Rees and others, on the treatment of rheumatism by lemon-juice. The remedy was no doubt often successful, but still there were many failures, and these did not seem to be sufficiently accounted for, as had been attempted, by reference to the different forms of the disease. But there was much uncertainty as to what constitutes lemon-juice. Has it always the same composition, or are there not various accidental circumstances attending its preparation calculated to render one specimen different from another. Sometimes the fruit is ordered to be squeezed at home; at other times, the prescription is sent to a druggist, or the juice is allowed to be purchased where it is cheapest. When obtained from the fresh fruit, by depression without removing the rind, it is a turbid, pale yellow fluid, exhaling a grateful odour of the essential oil, and of a specific gravity in different specimens between 1043 and 1047. By distilling a fresh specimen which had not been filtered, the author had obtained half a drachm of essential oil from 12 ounces; but from another, after filtering, only five minims. Some purchased at a fruit-preserver's, which had stood for several months in a cask, and undergone a kind of fermentation, was bright yellow and clear, of density

1037, and yielded scarcely a trace of oil. It had received an impregnation of common salt from the former contents of the cask. A sample of lime-juice procured from the stores of a merchant-vessel, smelt of rum, had a density of 1010, and contained a multitude of torulæ. The effect of the different processes for preserving the juice mentioned by Christison, was to separate one or more of the ingredients which might be of consequence to its remedial efficacy. Heat would expel the essential oil, filtration remove the solid débris of the pulp, and the addition of alcohol with filtration withdraw the mucilaginous matter. It appeared that the druggists in London do not make a practice of keeping the juice ready on demand, but that they generally prepare it extemporaneously when ordered. The dose was equally a matter of uncertainty; for although it seemed to be the prevalent idea, that the average produce of a lemon was about half an ounce, the author had not found any ordinary specimen yield less than seven drachms, while the average was rather more than an ounce. Hence, he concluded that it was necessary to fix a standard for the composition and dose of the juice before its remedial efficacy could be fairly tested. In the rind, besides the essential oil, the author observed granules of starch. A decoction of the white spongy portion, afforded pectine, hesperidine, and a trace of tannin. Hesperidine was discovered by M. Lebreton, who employed orangettes; but his process was complicated and unproductive. The author had found it was deposited in crystals by evaporating a decoction of the white portion of the rind, while in the same portion of the shaddock, it was separated by simple maceration in cold water, and could be collected in a filter. A specimen as thus obtained was exhibited to the Society. It had a decidedly bitter taste, but turned, not red as commonly stated, but yellow with sulphuric acid. Another principle, called *aurantiin*, was supposed to be the source of the bitterness of the lemon tribe; but its existence had not been demonstrated, and the author was disposed to regard the hesperidine as the true bitter principle. The essential oil belonged to a class corresponding to the formula  $C_8H_4$ , and including the other oils of the fruits of the lemon tribe, the oils of turpentine, juniper, savine, elemi, copaiba, cubebs, and pepper. Some of these were approved remedies in rheumatism. From trials made with the oil of lemon in this disease, in flatulent dyspepsia and leucorrhœa, the author entertained a high opinion of its therapeutical value, and thought that the chemical fact stated suggested the possibility of bringing together the various scattered evidences on the medicinal effects of the oils of the same class, and referring them to a general law. The fresh juice, when evaporated in a water bath, yielded about 8.5 grains per cent. of solid extract, and the ash obtained by incineration amounted to 0.27 per cent. The latter contained sulphuric and phosphoric acids, potash, lime, magnesia, and iron. A controversy existed as to whether the citric acid or the potash in lemon-juice was the true medicinal constituent. In reviewing the evidence, the author conceived that it was an error to suppose that either of them would answer so well separately. The efficiency of the juice probably depended, not on one or other of the ingredients, but on the whole combined. In using the essential oil, he gave it in doses of about fifteen minims, with two drachms of vinegar in decoction of barley, always being careful to keep the bowels freely open by purgatives. If the efficacy of lemon-juice in acute rheumatism depended on anything more than the refrigerant action of the citric acid, he thought the true anti-arthritic agent was the essential oil when present, and repeated his views as to the necessity of establishing a standard for the composition of the juice. A Table was exhibited, showing the correspondence in composition of the non-oxygenated essential oils mentioned in the paper.

Dr. Routh differed from the author as to the chemical elements in the lemon, to which the medicinal virtues might be attributed; the author attributing them to the essential oil, while Dr. Routh and Dr. Garrod believed them to be due to the potash. Acting on this principle, he was accustomed to give half to two drachm doses of potash, and thus add to the effect which would be obtained from lemon-juice. Dr. Garrod had not observed disease of the heart to follow rheumatism when treated in this way; and, moreover, he cured his cases within one week. The theory of the action of the potash, is simply that of neutralizing

the lithic acid, but its action is far more effectual if lithic or tartaric acids be united to the base. Oil of juniper, acting as a diuretic, had also in his practice effected the cure of rheumatism and gout within a week.

Dr. Glover referred to two classes of diuretics. The one by which the quantity of water is alone increased, as by the action of the oil of juniper; and the other, by which the solid constituents of the urine are increased in quantity, as by the action of acetate of potass. He was not disposed to admit that great simplicity in the exhibition of remedies is necessarily the best mode of procedure, and instanced the meconite of morphia as a better medicine than morphia or opium simply.

Mr. Headland criticized the author's statements somewhat severely, and was of opinion that the paper had proved nothing, and that the analyses were rather empirical than scientific. He doubted if the medicinal virtues of the lemon-juice could be attributed either to the essential oil or to the potass, for the small quantity of oil would be dissipated by boiling; and sailors who eat salt-beef, containing much potass, are subject to scurvy, and are cured by the administration of lemon-juice. Moreover, Dr. Bryson had remarked, that while the administration of nitrate of potass alone had benefited but one case in five ships'-crews, all the others were cured by lemon-juice. Fresh vegetables in general are sufficient to cure scurvy without Dr. Garrod's remedy of nitrate of potass; and it is very questionable if the disease can be cured apart from the use of vegetables. Upon the whole, he could attribute the good effects accruing from the use of lemon-juice to the combined citric acid and salts of potass.—*Med. Times and Gaz.* April 1, 1854.

## MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

17. *Pyrosis, its Causes, Pathology, and Treatment.*—Dr. GEORGE BUDD, in an interesting lecture (*Med. Times and Gaz.* March 18, 1854) on Pyrosis, observes it is most probable that the disorder in countries in which it is endemic, is mainly owing to the influence of climate and to the diet of the poor not being sufficiently varied, and consisting too much of coarse and innutritious farinaceous food.

But if such be the main causes of the disorder, there are, doubtless, various other conditions that assist in bringing it on. Most of these may be classed under two heads:—

1. Excessive labour, insufficient clothing, loss of blood, and all other conditions that tend to exhaust the body.
2. Pregnancy, constipation, anxiety, and other conditions that tend to disturb the functions of the stomach.

We have already seen that waterbrash occasionally occurs in a high degree in the wealthy classes, especially in women, where it cannot be ascribed to any peculiarity in diet, and seems to be owing solely to such conditions as these.

Pyrosis, then, considered with reference to its exciting causes, is of two kinds:—

1. That which has been termed by some writers *symptomatic* pyrosis, which is brought on (without any peculiarity in diet) by pregnancy or some other condition that disturbs the functions of the stomach.
2. That which has been termed, in contradistinction to the former, *idiopathic* pyrosis, which prevails chiefly among the agricultural poor in rural districts, and which seems, in most cases, to be mainly owing to defective diet.

Many conditions conspire to render the disorder much more frequent in women than in men. Women are much more frequently in states of debility from the nature of their constitutions, and from their having in suckling and in excessive or unnatural uterine discharges, causes of exhaustion from which men are exempt; they have also more excitable nervous systems, and, in con-